

Parallel Tools and Libraries at NCSA

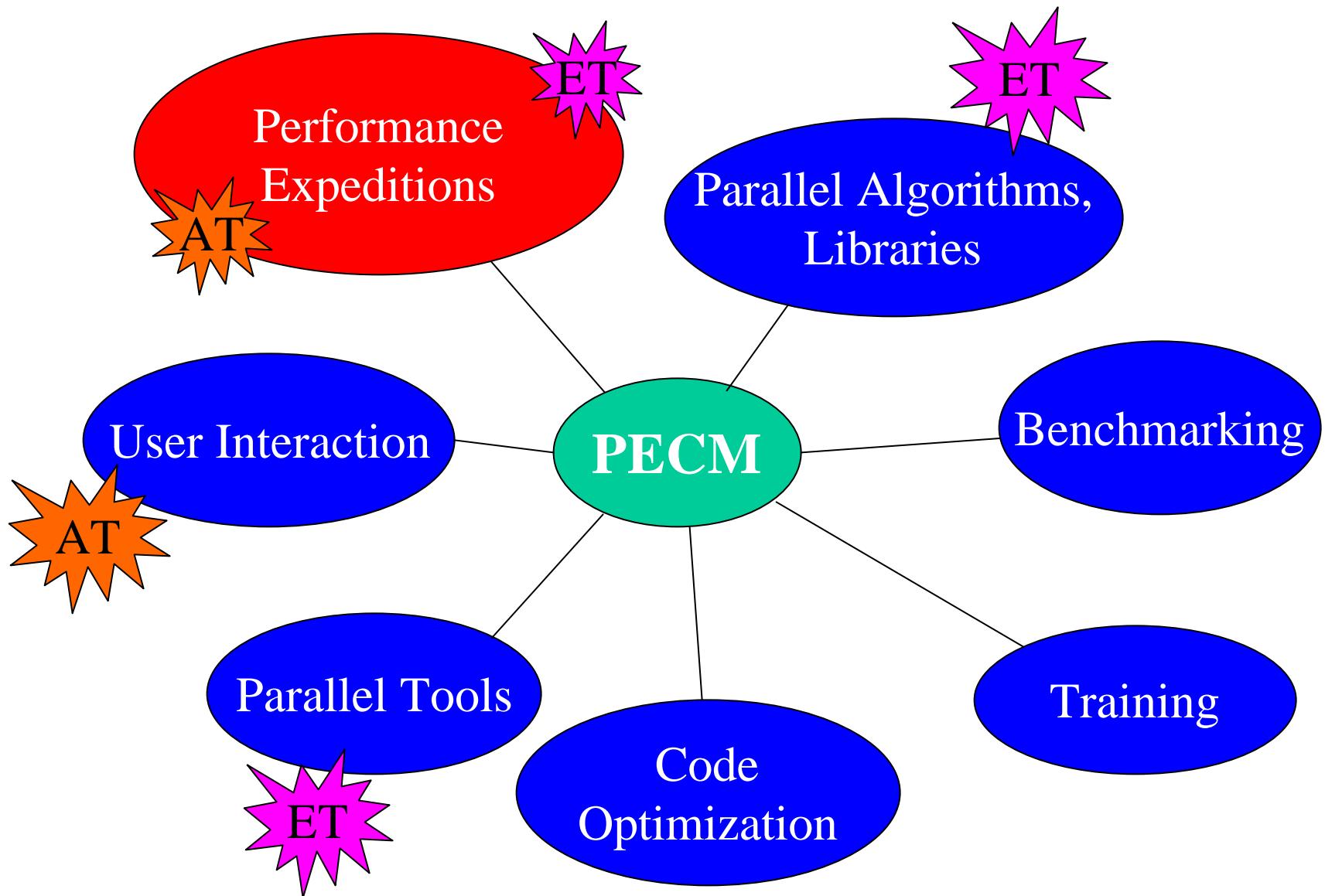
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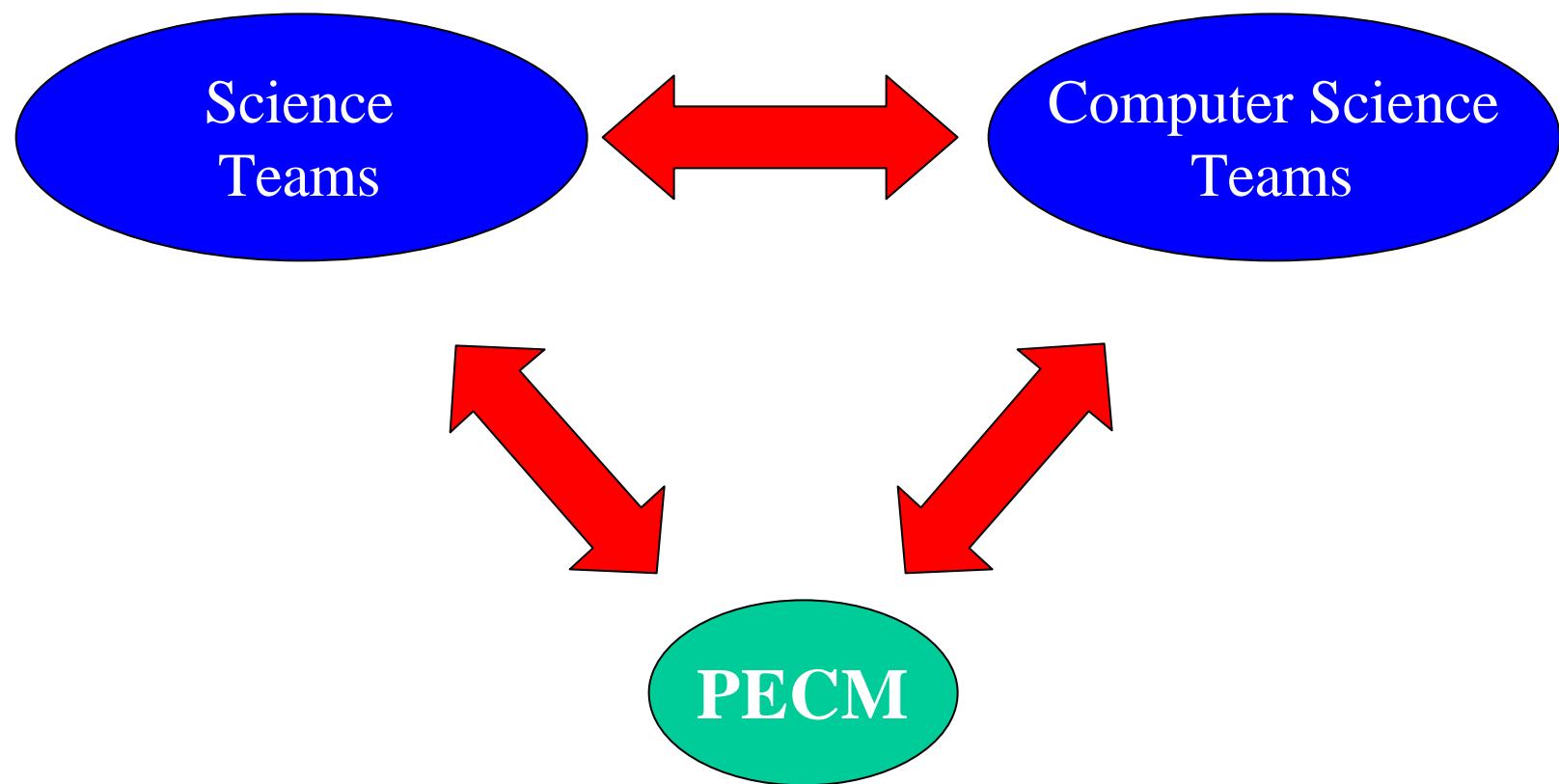
Performance Expeditions Workshop
March 14, 2002



National Computational Science Alliance



Performance Expedition Interactions



Parallel Tools

Types of Tools

Performance Analysis
(MPI, Shared Memory)

Parallel Debuggers

Parallel I/O
Parallel Compilers
Frameworks

Sources

Alliance Partners

Academic Research
groups

Third Party Software



National Computational Science Alliance

Platinum

IA-32 Pentium III Linux cluster

SvPablo (UIUC)

FPMPI (ANL)

PAPI (UTK)

Jumpshot (ANL)

Prophesy (Northwestern)

HPCView (Rice)

PerfSuite (NCSA)

libhpm (IBM)

Paradyn (UW)



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Titan

IA-64 Itanium Linux cluster

SvPablo (UIUC)

FPMPI (ANL)

PAPI (UTK)

PerfSuite (NCSA)



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Commercial Tools

Vampir

GuideView, Assure

Vampir+GuideView

TotalView

SGI Origin:

perfex

ssrun

prof, cvperf



Parallel Libraries

Library

ATLAS

ScaLAPACK

PETSc

FFT

SPRNG

(P)ARPACK

MKL

NAG

Sources

Alliance Partners

Academic Research
groups

Third Party Software



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Compilers, I/O, Frameworks

Compilers:

Intel

PGHPF

gnu

Parallel I/O:

ROMIO

AMR:

DAGH

Frameworks:

PETSc

Cactus



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